

Fig. 1 : Overview of backup

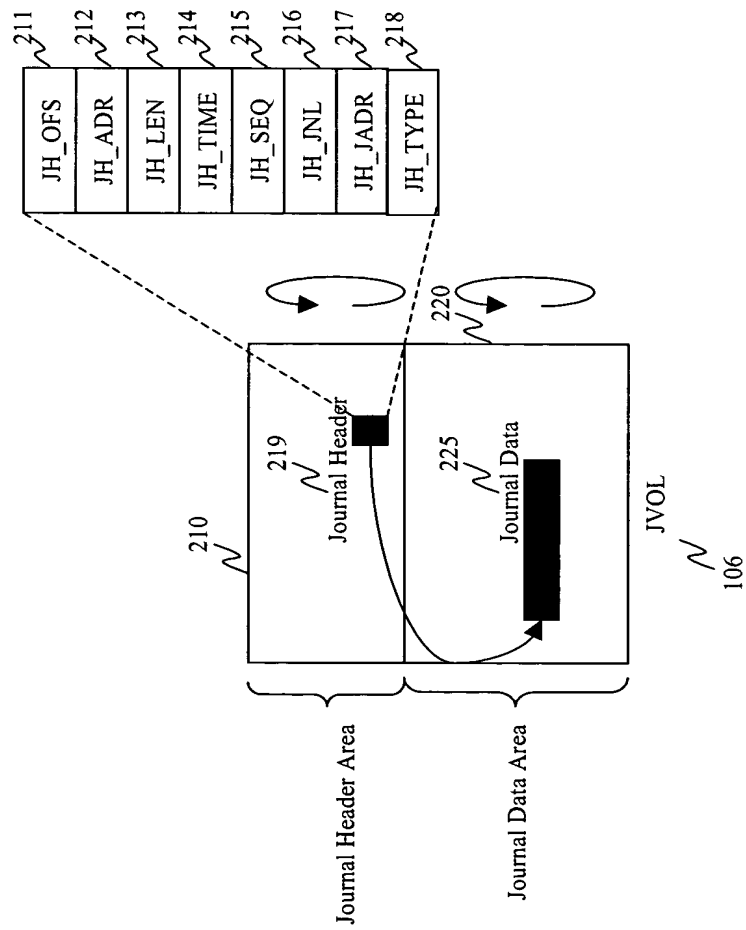


Fig. 2 : Control Data for Journal

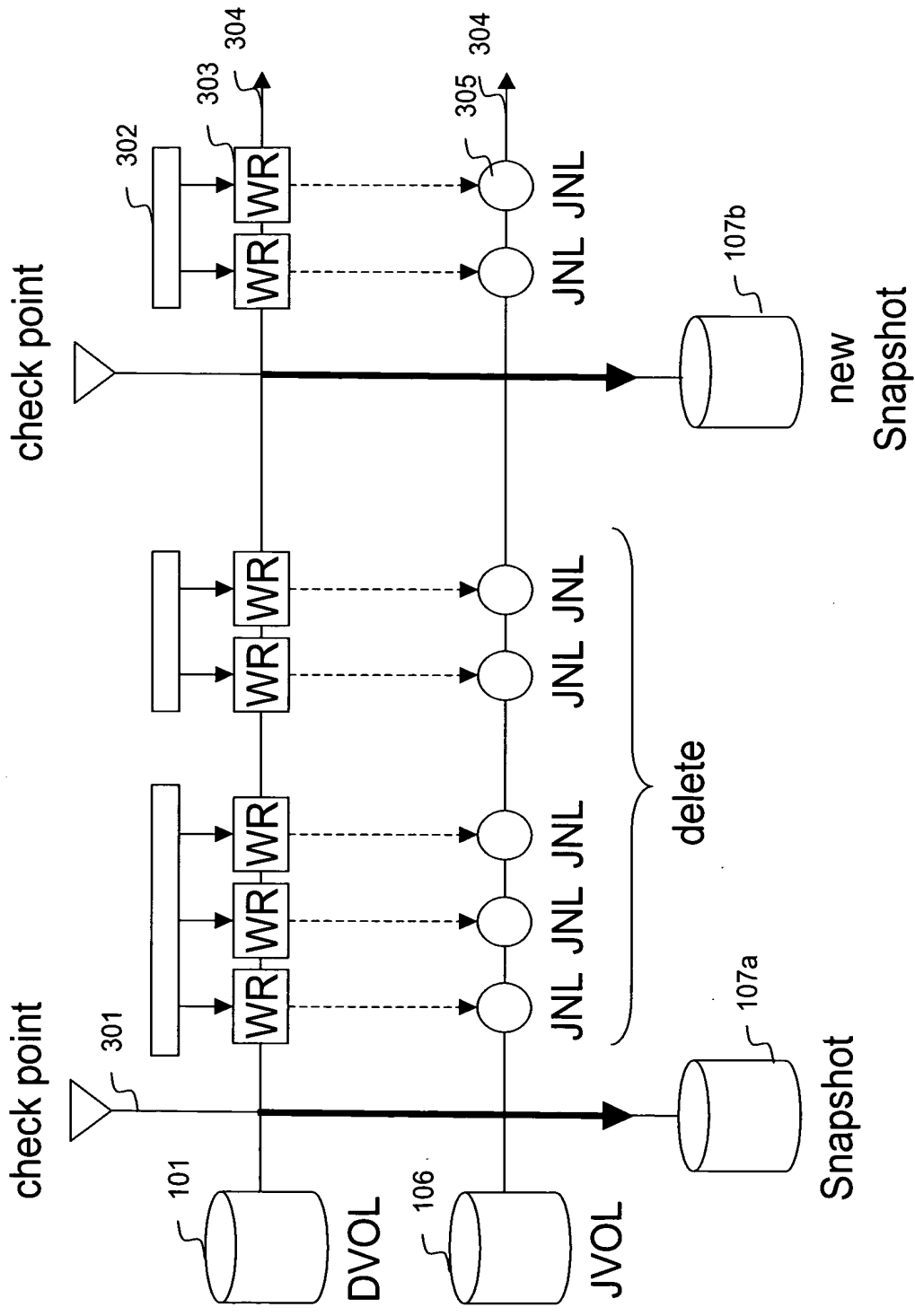


Fig. 3 : take a new snapshot

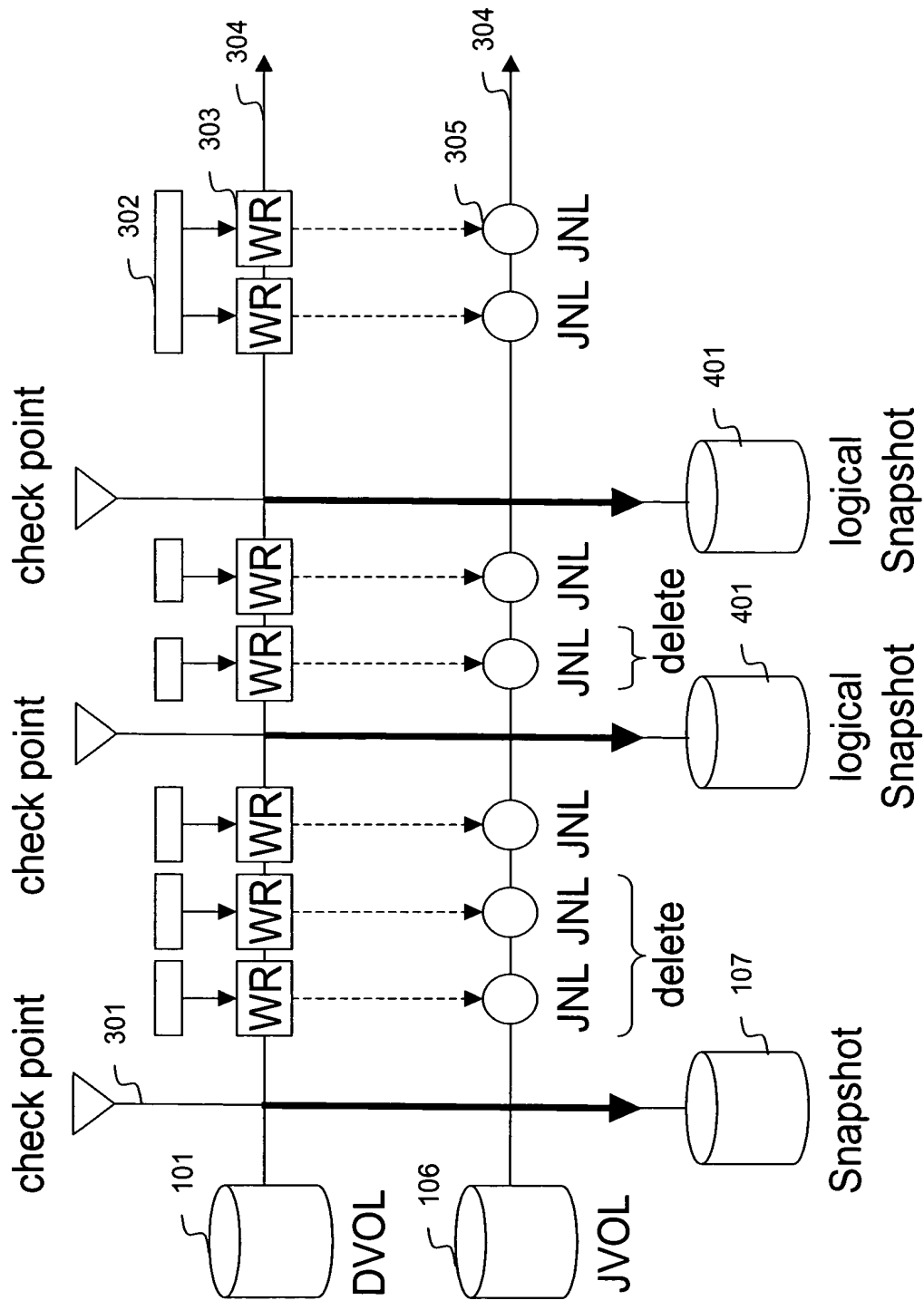


Fig. 4 : take a logical snapshot

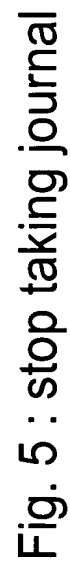
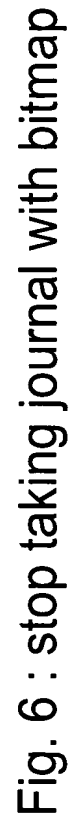


Fig. 5 : stop taking journal



<div>801</div> JNLG-A JNLG-B JNLG-C	free capacity of journal pool	threshold of free capacity	threshold of rate of free capacity	wrap-around
	10GB(7%)	1GB	-	-
		-	5%	-
		5GB	-	X

Fig. 8 : management table of free capacity of journal

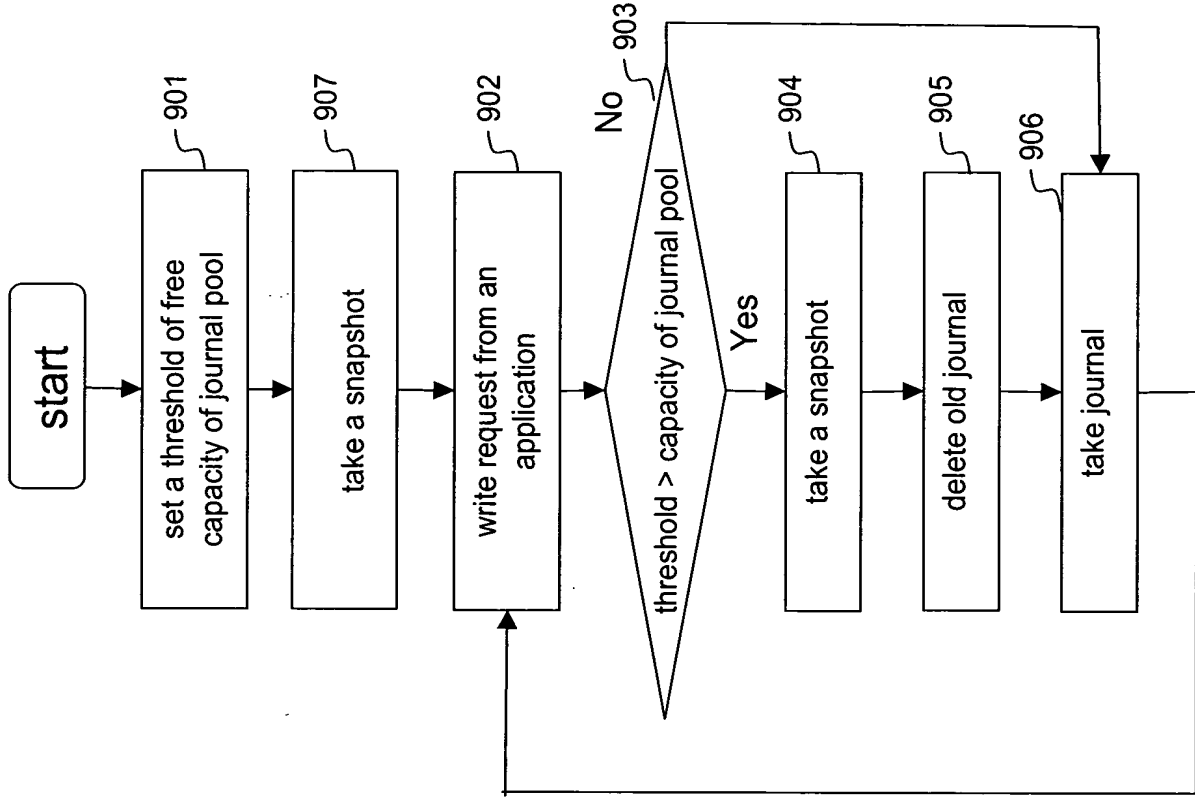


Fig. 9 : flowchart of Fig.3

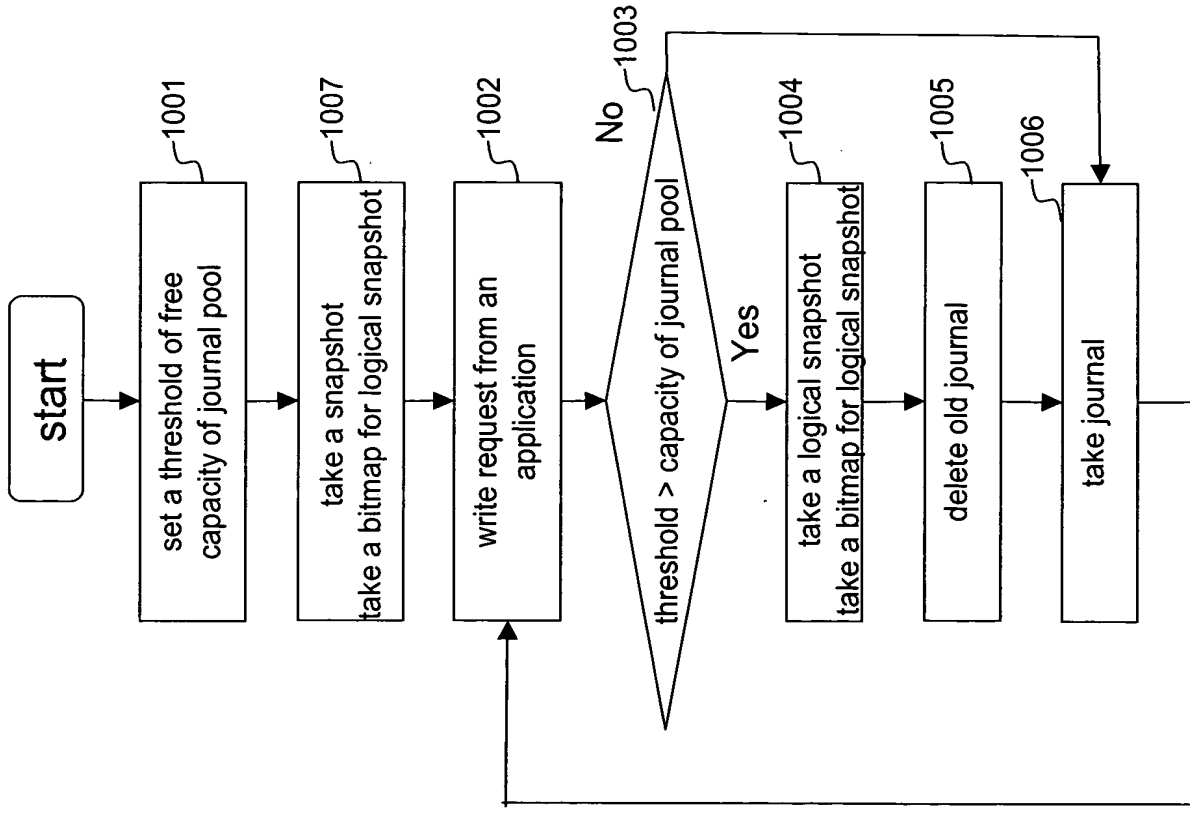


Fig. 10 : flowchart of Fig.4

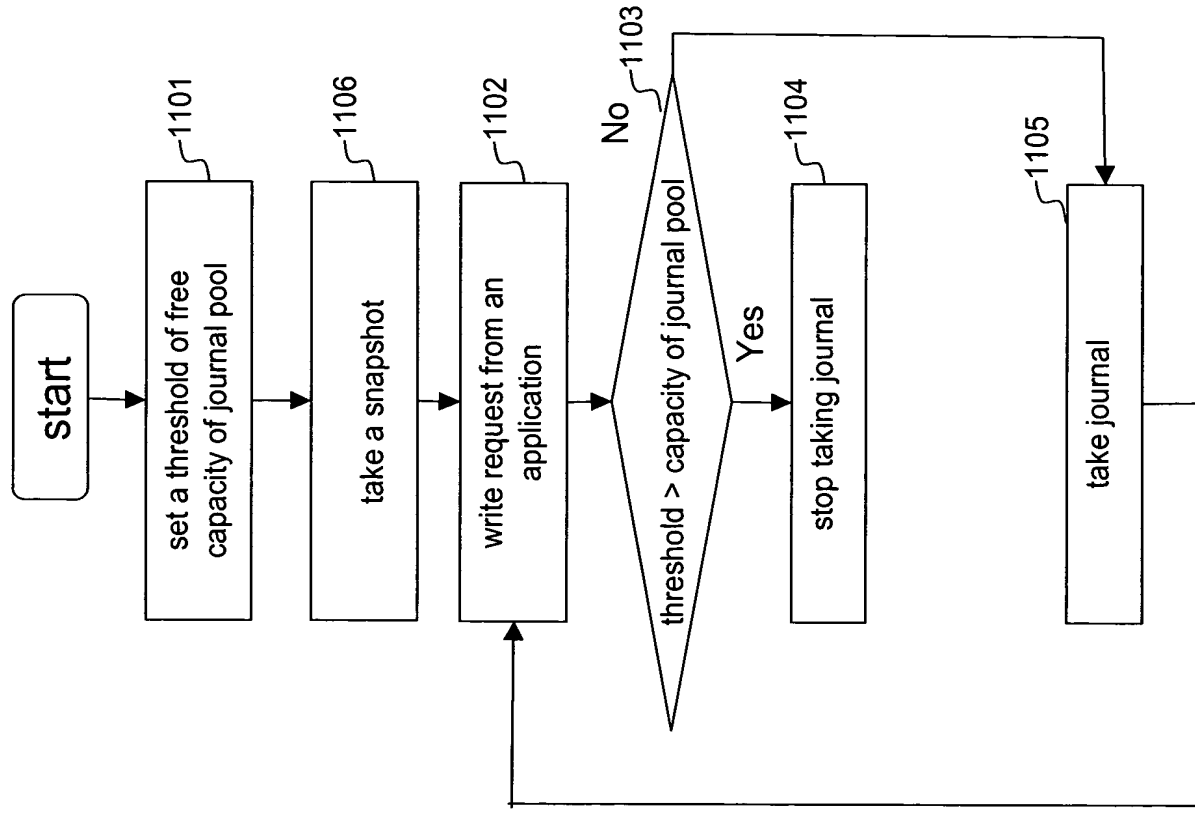


Fig. 11 : flowchart of Fig.5

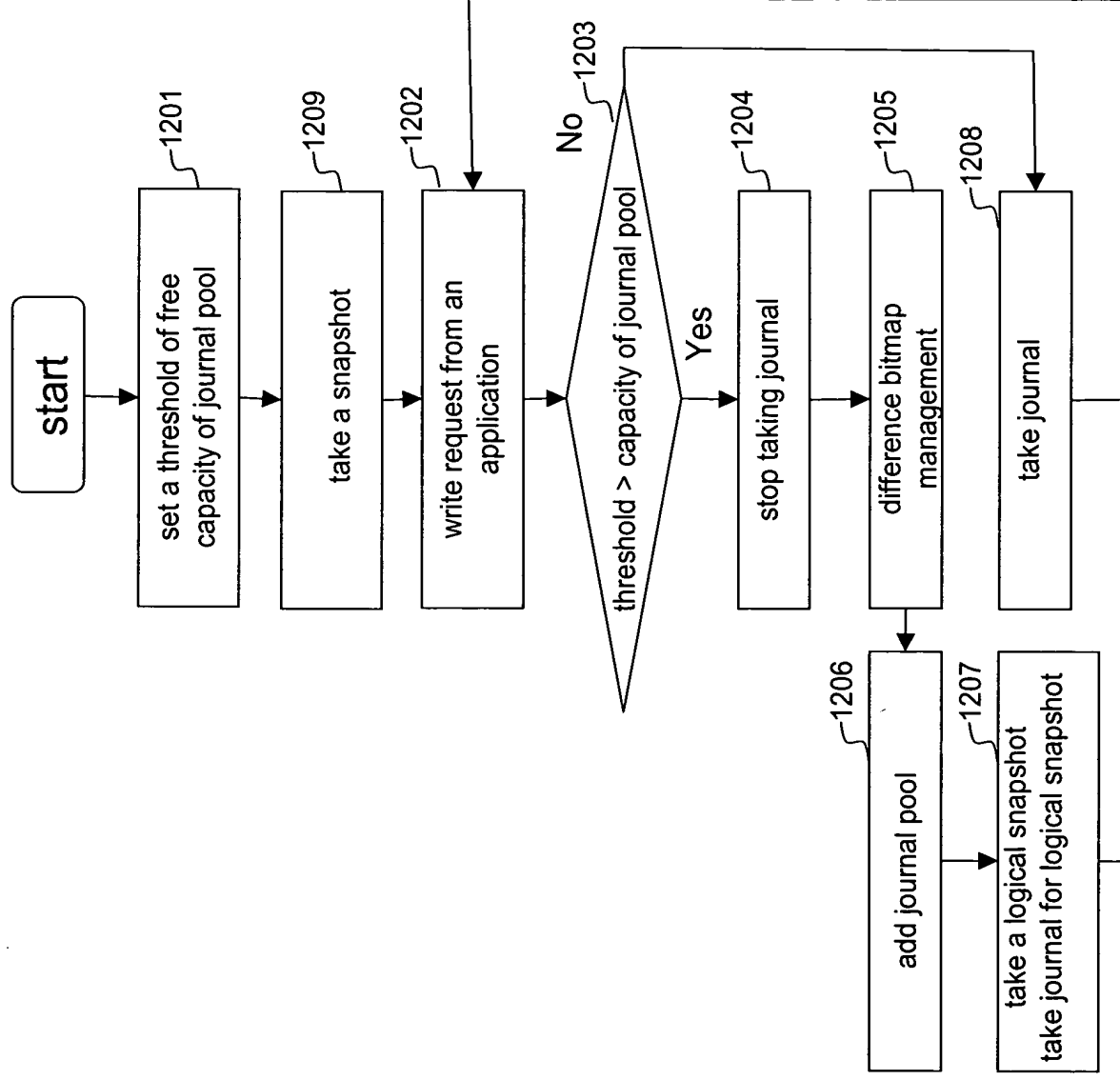


Fig. 12 : flowchart of Fig.6

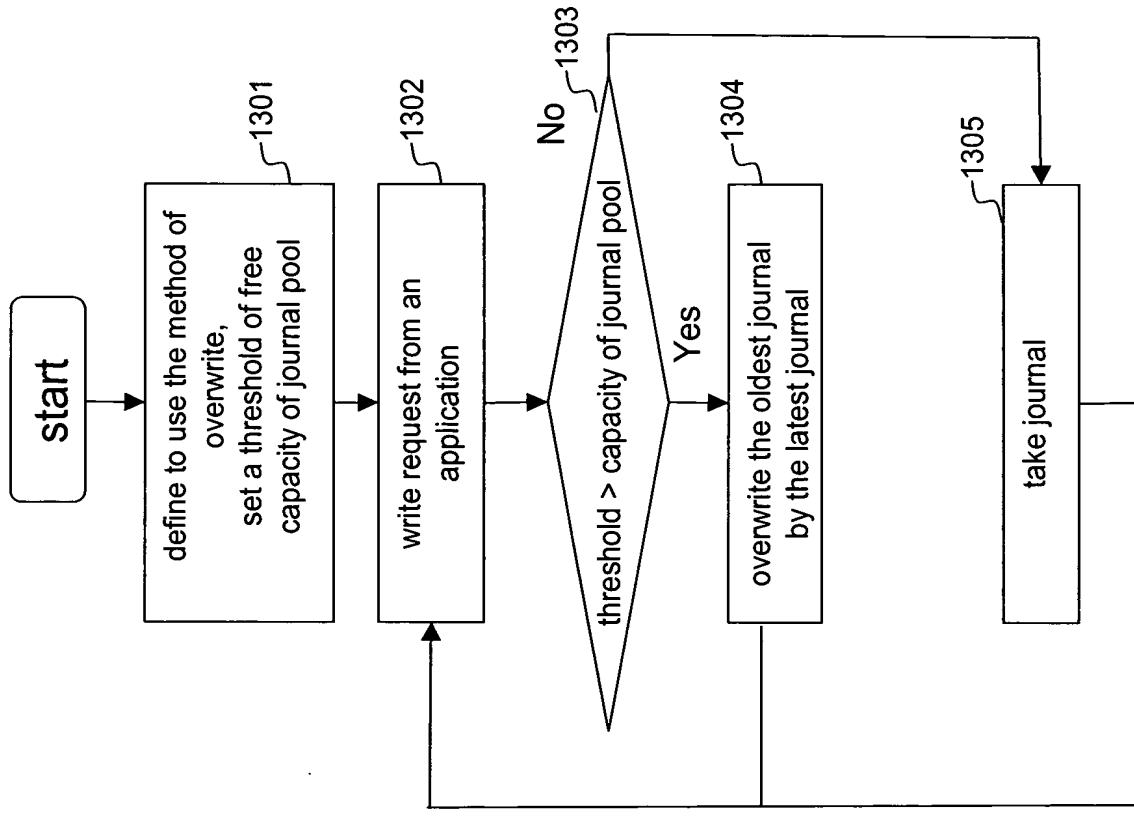


Fig. 13 : flowchart of Fig.7

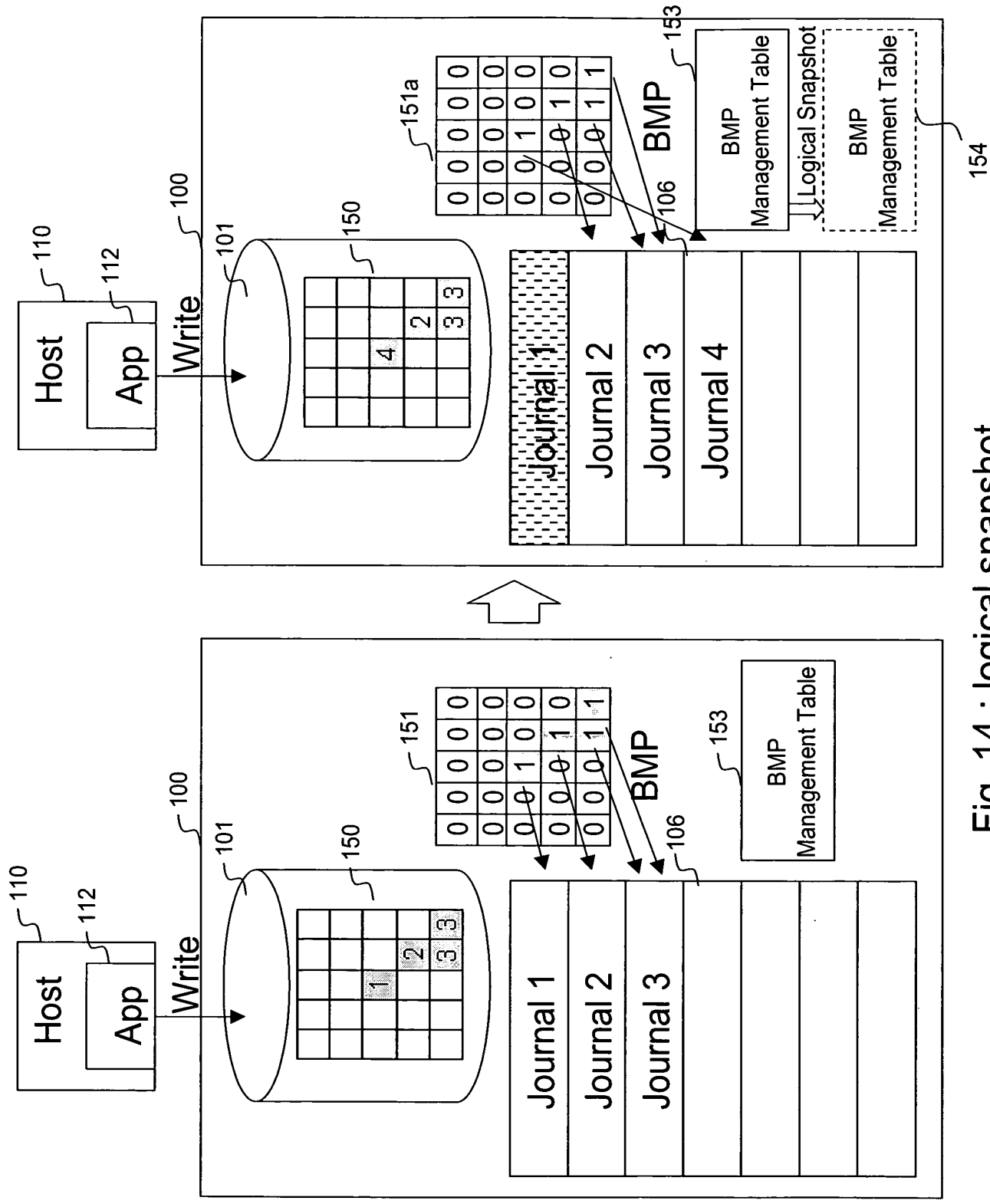


Fig. 14 : logical snapshot

seq#	DVOL#	bitmap #	JH_SEQ	generation of logical snapshot	time of logical snapshot
1	0	0-1	101 (Journal 1)	0	-
2	0	0-2	102 (Journal 2)	0	-
3	0	0-3	103 (Journal 3)	0	-
4	0	0-4	103 (Journal 3)	0	-
5	-	-	-	-	-

Fig. 15a : BMP Management Table before logical snapshot

seq#	DVOL#	bitmap #	JH_SEQ	generation of logical snapshot	time of logical snapshot
1	0	0-1	101 (Journal 1)	0	-
2	0	1-2	102 (Journal 2)	1	03/03/2005
3	0	1-3	103 (Journal 3)	1	03/03/2005
4	0	1-4	103 (Journal 3)	1	03/03/2005
5	0	1-1	104 (Journal 4)	1	03/03/2005

Fig. 15b : BMP Management Table after logical snapshot